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(54) EXTERNAL AGENT FOR SKIN

(57)Abstract:

PURPOSE: To provide a safe external agent for skin having excellent skin-aging preventing action, chapped skin improving action, wound healing action and anti-inflammatory action and free from skin stimulation and skin sensitizing activity.

CONSTITUTION: This external agent is produced by compounding (A) one or more compounds selected from α-hydroxy acids, their salts and their derivatives and/or a protein extracted from shell membrane in combination with (B) one or more compounds selected from sphingophospholipid, glycosphingolipid, nucleic acid and/or its salt. As an alternative, the above α-hydroxy acid, etc., are compounded in combination with glycerophospholipid. The proliferation- promoting action on fibroblast cell, skin-moistening action and skin cell activation action are synergistically fortified by the addition of a small amount of each component to attain excellent effect for preventing and improving the aging symptom of skin, improving the chapped skin and healing the wound and excellent anti-inflammatory action.

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CLAIMS

[Claim(s)]

[Claim 1] The skin medicine for external application characterized by blending one or more sorts chosen from the group which consists of alpha-hydroxy acids, these salts, and a derivative and/or the protein extracted from the shell membrane, and a sphingophospholipid and/or a sphingoglycolipid.

[Claim 2] The skin medicine for external application characterized by blending one or more sorts of one or more sorts chosen from the group which consists of alpha-hydroxy acids, these salts, and a derivative and/or the protein extracted from the shell membrane, and a glyceroglycolipid.

[Claim 3] The skin medicine for external application characterized by blending one or more sorts chosen from the group which consists of alpha-hydroxy acids, these salts, and a derivative and/or the protein extracted from the shell membrane, and a nucleic acid and/or its salt.

[Claim 4] The skin medicine for external application characterized by blending one or more sorts chosen from the group which consists of alpha-hydroxy acids, these salts, and a derivative, and one or more sorts of a glycerophospholipid.

[Claim 5] The skin medicine for external application according to claim 1 to 4 characterized by a skin medicine for external application being a charge of makeup.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] this invention relates to a skin medicine for external application effective in aging prevention of the skin, a surface deterioration improvement, wound healing, anti-inflammation, etc. according to the synergistic effect of a proliferation promotion operation of the dermis cell which blends and changes combining the protein extracted from alpha-hydroxy acids and/or the shell membrane, a sphingolipid and a glycerolipid, and nucleic acids and a moisturization operation, and a cell activation operation.

[0002]

[Description of the Prior Art] Before, many researches have been made about the skin medicine for external application which has prevention of aging symptoms, such as a wrinkling of the skin, granularity of texture, and bulk and a rough deposit, and a surface deterioration symptom, an improvement, and wound healing and anti-inflammatory activity. Recently, in the field of a skin medicine for external application, activation of the skin cell itself is carried out, the function of the skin itself is activated, and the attempt which aims at an improvement and aging prevention of a cutaneous symptom is made. Moreover, reduction of skin moisture was compensated, or development of an effective moisturizer has also been furthered rather than it prevents moisture reduction as it becomes clear that the inflammation and surface deterioration of the skin originate in reduction of a skin moisture content.

[0003] As a former attempt, hormone, various vitamins, the vegetable drug extract, the animal organ extract, the plant extract, etc. have been asked for the skin cell activator. Especially the collagen and elastin which are composition protein of a connective tissue are added, or the charge of makeup using the fusibility shell membrane etc. is proposed to attain activation of the fibroblast (JP,60-19725,B, JP,48-40943,A, JP,3-190808,A). Moreover, derivatives, such as alpha-hydroxy acids including a glycolic acid and a lactic acid, these salts, or sterol ester, promote proliferation of the fibroblast, and we find out that it is effective in prevention of aging of the skin, and an improvement, and are indicating (JP,5-112422,A, Japanese Patent Application No. 5-157843).

[0004] On the other hand, as a latter attempt, mucopolysaccharides including amino acid, a nucleic acid, and a hyaluronic acid, the sphingolipid, etc. are used as a moisturizer or a skin plugging agent.

[0005]

[Problem(s) to be Solved by the Invention] However, in a skin cell activator which was described above, on the occasion of use, the limit was received, and an operation and an effect were not enough and there was a trouble of being as mass being blended considerably ****, from the problem of a side effect. Moreover, especially in vegetation or the animal origin matter, management of quality was difficult and it was difficult to receive offer of a stable skin activator, and when it blended and tablet-ized with other components as a skin medicine for external application further, there were some by which activity will be lost. Since a collagen, an elastin, a fusibility shell membrane, etc. especially consisted of protein, there was a problem also in respect of calling it sensitization nature. About alpha-hydroxy acids, when loadings were made [many], skin irritation might appear, either, and the operation effect as expected might not be acquired on problems, such as cutaneous absorption.

[0006] On the other hand, the above-mentioned moisturizer used conventionally supplies moisture to the skin by the water retention of itself, or the lock out effect on the front face of the skin protects evapotranspiration of the moisture from epidermis, the moisturizincy effect was temporary, and the activation operation of a skin cell was weak, and various restrictions were received in many cases in stability and the formation of a feeling of use up tablet.

[0007]

[Means for Solving the Problem] The place examined wholeheartedly to offer the skin medicine for external application which solves the above-mentioned technical problem and does not have influences which are not desirable, such as a stimulus to a side effect, the skin, etc. The protein which alpha-hydroxy acids which have a fibroblast proliferation promotion operation, these salts, and one or more sorts of derivatives reached, or was extracted from the shell membrane, By using together the sphingolipid having a moisturization operation and a skin activation operation, a glycerolipid, and a nucleic acid It finds out that prevention of the multiplication aging symptom of the skin, an improvement, an improvement of a surface deterioration symptom, wound healing, and the anti-inflammation effect are acquired by a proliferation promotion operation of the fibroblast, a skin moisturization operation, activation operation of a skin cell, etc., and came to complete this invention.

[0008] As an alpha-hydroxy acid, the long chain fatty acid from short chain fatty acid, such as a glycolic acid and a lactic acid, to about 26 carbon number can be used. Moreover, derivatives, such as these salts and ester with a sterol, can also be

used.

[0009] In this invention, the protein in which solubilization extraction is carried out by acid, alkali chemicals, the organic solvent, etc. from this is used using the film which has adhered inside the egg shell of birds, such as a hen's egg and a quail egg, as a shell membrane.

[0010] On the other hand, as for the sphingolipid and glyceroglycolipid which are used together with shell membrane extraction protein, such as alpha-hydroxy acid, in this invention, what extracts from an animals-and-plants organization and is obtained is mainly used. As the former, sphingophospholipids and/or sphingoglycolipids, such as a sphingomyelin, ceramide phosphorylethanolamine, a ceramide phosphoryl glycerol, GARAKUTOSEREBUSHIDO, a glucocerebroside, a ceramide lactoside, and a ganglioside, can be chosen. A galactosyl glyceride, a glucosyl glyceride, a seminolipid, etc. can be mentioned as the latter.

[0011] Moreover, as a nucleic acid and/or its salt, the deoxyribonucleic acid extracted from the animals-and-plants cell and ribonucleic acids, these salts, or synthetic compounds is used.

[0012] On the other hand, as a glycerophospholipid used together with alpha-hydroxy acid, the phosphatidic acid, the phosphatidylcholine, the phosphatidylethanolamine, the phosphatidylserine, the phosphatidylinositol, etc. can be mentioned.

[0013] An operation far more nearly little [the loadings of each component] than the case where it is used independently, respectively, and effective can be demonstrated. alpha-hydroxy acids, these salts, or these derivatives have [-6 power % of the weight -10% of the weight of 10] about 0.00001 - 10 % of the weight suitable for each loadings of shell membrane extraction protein, a sphingolipid, a glycerolipid, nucleic acids, and/or these salts respectively. Moreover, other components usually used for a skin medicine for external application can be used together and blended, the gestalt of face toilet, the milky lotion for the skins, the cream for the skins, ointment, etc. can be taken as a gestalt of a medicine for external application, and it can provide also as a charge of makeup.

[0013]

[Function] Application of the skin medicine for external application by this invention accepts effectively an improvement of prevention and the surface deterioration symptom which improves and was excellent, wound healing, and the anti-inflammation effect in the aging symptom of the skins, such as a wrinkling, granularity of texture, and bulk and a rough deposit, according to a synergism with a proliferation promotion operation of the dermis fibroblast, a skin moisturization operation, and a skin cell activation operation.

[0014]

[Example] Then, an example explains the feature of this invention in detail. First, prescription of examples 1 and 2 is shown in Table 1 with prescription of the examples 1, 2, and 3 of comparison as a milky lotion for the skins by this invention. Among Table 1, the oil phase component of (1) - (6) is mixed, and it dissolves, supposes that it is uniform, and heats at 75 degrees C. On the other hand, the aqueous-phase component of (7), (8), (10), and (15) is mixed, and it dissolves, and heats at 75 degrees C. Subsequently, an oil phase component is added for the above-mentioned aqueous-phase component, and preliminary emulsification is carried out, and after adding (9) to this, it emulsifies uniformly at a homomixer. It cools after that, (11) is added and pH is adjusted, and at 50 degrees C, (12) - (14) is added and it mixes.

[Table 1]

成 分	配合量 (重量%)				
	実 施 例		比 較 例		
	1	2	1	2	3
(1)スクワラン	5.0	5.0	5.0	5.0	5.0
(2)白色ワセリン	2.0	2.0	2.0	2.0	2.0
(3)ミツロウ	0.5	0.5	0.5	0.5	0.5
(4)ソルビタンセスキオレエート	0.8	0.8	0.8	0.8	0.8
(5)ポリオキシエチレン(20) オレイルエーテル	1.2	1.2	1.2	1.2	1.2
(8)スフィンゴミエリン	0.2	0.2	-	-	0.2
(7)プロピレングリコール	5.0	5.0	5.0	5.0	5.0
(8)エタノール	2.0	2.0	2.0	2.0	2.0
(9)カルボキシビニルポリマー 1.0重量%水溶液	20.0	20.0	20.0	20.0	20.0
(10)パラヒドロキシ安息香酸 メチル	0.1	0.1	0.1	0.1	0.1
(11)水酸化カリウム	0.1	0.1	0.1	0.1	0.1
(12)乳酸	0.3	-	0.3	-	-
(13)卵殻膜抽出タンパク質	-	0.3	-	0.3	-
(14)香料	0.2	0.2	0.2	0.2	0.2
(15)精製水	適量	適量	適量	適量	適量
全 量	100.00				

[0015] Next, prescription of examples 3 and 4 is shown in Table 2 with prescription of the examples 4, 5, and 6 of comparison as a cream for the skins by this invention. Among Table 2, the oil phase component of (1) - (8) is mixed, and it dissolves, supposes that it is uniform, and heats at 75 degrees C. On the other hand, the aqueous-phase component of (9), (10), and (14) is mixed, and it dissolves, and heats at 75 degrees C. Subsequently, after adding an oil phase component for the above-mentioned aqueous-phase component and carrying out preliminary emulsification, it emulsifies uniformly at a homomixer. It cools after that, and at 50 degrees C, (11) - (13) is added and it mixes.

[Table 2]

成 分	配合量 (重量%)				
	実 施 例		比 較 例		
	3	4	4	5	6
(1) ミツロウ	8.0	8.0	8.0	8.0	8.0
(2) セタノール	5.0	5.0	5.0	5.0	5.0
(3) 還元ラノリン	8.0	8.0	8.0	8.0	8.0
(4) スクワラン	37.5	37.5	37.5	37.5	37.5
(5) 脂肪酸グリセリン	4.0	4.0	4.0	4.0	4.0
(6) 親油性モノステアリン酸 グリセリン	2.0	2.0	2.0	2.0	2.0
(7) ポリオキシエチレン(20) ソルビタンモノラウレート	2.0	2.0	2.0	2.0	2.0
(8) グルコセレブロシド	0.2	0.2	-	-	0.2
(9) プロピレングリコール	5.0	5.0	5.0	5.0	5.0
(10) パラヒドロキシ安息香酸 メチル	0.1	0.1	0.1	0.1	0.1
(11) グリコール酸	0.5	-	0.5	-	-
(12) 卵殻膜抽出タンパク質	-	0.5	-	0.5	-
(13) 香料	0.2	0.2	0.2	0.2	0.2
(14) 精製水	適量	適量	適量	適量	適量
全 量	100.0				

[0016] Then, prescription of examples 5 and 6 is shown in Table 3 with prescription of the examples 7, 8, and 9 of comparison as a O/W type emulsion-ointment type skin medicine for external application by this invention. Among Table 3, the oil phase component of (1) - (5) is mixed, and it dissolves, supposes that it is uniform, and heats at 75 degrees C. On the other hand, the aqueous-phase component of (6), (7), and (10) is mixed, and it dissolves, and heats at 75 degrees C. Subsequently, an oil phase component is added and emulsified for the above-mentioned **** component, and after cooling, at 50 degrees C, (8) or (9) are added and it mixes.

[Table 3]

成 分	配合量 (重量%)				
	実 施 例		比 較 例		
	5	6	7	8	9
(1)白色ワセリン	25.0	25.0	25.0	25.0	25.0
(2)ステアリルアルコール	25.0	25.0	25.0	25.0	25.0
(3)グリセリン	12.0	12.0	12.0	12.0	12.0
(4)ラウリル硫酸ナトリウム	1.0	1.0	1.0	1.0	1.0
(5)モノガラクトシル ジグリセリド	0.2	0.2	-	-	0.2
(6)パラヒドロキシ安息香酸 メチル	0.02	0.02	0.02	0.02	0.02
(7)パラヒドロキシ安息香酸 ブチル	0.02	0.02	0.02	0.02	0.02
(8)乳酸	0.5	-	0.5	-	-
(9)卵殻膜抽出タンパク質	-	0.5	-	0.5	-
(10)精製水	適量	適量	適量	適量	適量
全 量	100.00				

[0017] Furthermore, prescription of examples 7 and 8 is shown in Table 4 with prescription of the examples 10, 11, and 12 of comparison as cosmetics face toilet by this invention. Among Table 4, it mixes and dissolves in (12) and the component of (1) - (10) is made uniform, and after adding (11), the whole quantity is made into 100 % of the weight by (12).
[Table 4]

成 分	配合量 (重量%)				
	実 施 例		比 較 例		
	7	8	1 0	1 1	1 2
(1)ポリオキシエチレン(20) ソルビタンモノラウレート	1.0	1.0	1.0	1.0	1.0
(2)1,3-ブチレングリコール	3.0	3.0	3.0	3.0	3.0
(3)ソルビトール	2.0	2.0	2.0	2.0	2.0
(4)ピロリドンカルボン酸 ナトリウム	3.0	3.0	3.0	3.0	3.0
(5)グリコール酸	0.2	-	0.2	-	-
(6)卵殻膜抽出タンパク質	-	0.2	-	0.2	-
(7)デオキシリボ核酸	0.5	0.5	-	-	0.5
(8)エタノール	2.0	2.0	2.0	2.0	2.0
(9)パラヒドロキシ安息香酸 メチル	0.1	0.1	0.1	0.1	0.1
(10)カルボキシビニルポリマ ー 1. 0 重量%水溶液	2.0	2.0	2.0	2.0	2.0
(11)香料	0.2	0.2	0.2	0.2	0.2
(12)精製水	適量	適量	適量	適量	適量
全 量	100.0				

[0018] Moreover, prescription of an example 9 is shown in Table 5 with prescription of the examples 13 and 14 of comparison as a cream for the skins by this invention. Among Table 5, the oil phase component of (1) - (8) is mixed, and it dissolves, supposes that it is uniform, and heats at 75 degrees C. On the other hand, the **** component of (9), (10), and (13) is mixed, and it dissolves, and heats at 75 degrees C. Subsequently, after adding an oil phase component for the above-mentioned **** component and carrying out preliminary emulsification, it emulsifies uniformly at a homomixer. It cools after that, and at 50 degrees C, (11) and (12) are added and it mixes.

[Table 5]

成 分	配合量 (重量%)		
	実施例 9	比較例 1 3	比較例 1 4
(1) ミツロウ	6.0	6.0	6.0
(2) セタノール	5.0	5.0	5.0
(3) 還元ラノリン	8.0	8.0	8.0
(4) スクワラン	37.5	37.5	37.5
(5) 脂肪酸グリセリン	4.0	4.0	4.0
(6) 親油性モノステアリン酸 グリセリン	2.0	2.0	2.0
(7) ポリオキシエチレン(20) ソルビタンモノラウレート	2.0	2.0	2.0
(8) ホスファチジルコリン	1.0	—	1.0
(9) プロピレングリコール	5.0	5.0	5.0
(10) パラヒドロキシ安息香酸 メチル	0.1	0.1	0.1
(11) 乳酸	0.5	0.5	—
(12) 香料	0.2	0.2	0.2
(13) 精製水	適量	適量	適量
全 量	100.0		

[0019] About an above-mentioned example and the above-mentioned example of comparison, the improvement effect of the aging symptom of the skin, the recovery effect of the wound of the skin, and anti-inflammatory activity were examined. First, about each sample, 20 man-and-woman panelists of 50-60 years-old cost permitted this symptom notably were made to use an improvement of the aging symptom of the skin at a time for one month with a blind, and it observed and evaluated change of the skin state before and after use. As an index of the aging symptom of the skin, three items of the wrinkling of the skin, texture, and a beam were chosen, it observed with the replica on photography and the front face of the skin about a wrinkling and texture, and the improvement situation was evaluated. Measurement of skin elasticity estimated the beam of the skin. It evaluates in three stages of improvement" and "having no C; change" a little. an improvement situation -- "A; improvement" and "-- B; -- examples 1 and 2 and the examples 1, 2, and 3 of comparison -- Table 6 -- examples 3 and 4 and the examples 4, 5, and 6 of comparison -- Table 7 -- examples 5 and 6 and the examples 7, 8, and 9 of comparison -- Table 8 -- examples 7 and 8 and the examples 10, 11, and 12 of comparison -- Table 9 -- and . An example 9 and the examples 13 and 14 of comparison were shown in Table 10 with the number of panelists which obtained each evaluation.

[0020] In the example 1 which uses together the lactic acid which is one sort of alpha-hydroxy acid, and the sphingomyelin which is a sphingophospholipid, and the example 2 which uses together shell membrane extraction protein and a sphingomyelin, the improvement of a respectively remarkable aging symptom was accepted and it was estimated that each item has been improved in 85% or more of panelist by comparison with examples 1 and 2 and the examples 1, 2, and 3 of comparison so that more clearly than Table 6. the panelist who the effect showed up insufficiently since the loadings of each component were stopped low, although, as for an improvement inclination, each item is accepted in the examples 1, 2, and 3 only of comparison which blends above each component independently, respectively, and was estimated as "the improvement" was [wrinkling / texture / 15 - 30%, and] only 40 - 45% about 55 - 65%, and the beam The improvement effect as opposed to a wrinkling at especially the example 3 of comparison that blended the sphingomyelin only 0.2% of the weight was low.

[Table 6]

項 目	評 価	試 料				
		実施例 1	実施例 2	比較例 1	比較例 2	比較例 3
しわ	A	1 8	1 8	6	6	3
	B	2	2	1 2	1 1	6
	C	0	0	2	3	1 1
きめ	A	1 9	2 0	1 3	1 2	1 1
	B	1	0	5	6	6
	C	0	0	2	2	3
はり	A	1 7	1 8	8	8	9
	B	3	2	1 0	1 2	9
	C	0	0	2	0	2

[0021] Also in Table 7, the improvement of a remarkable aging symptom was accepted in examples 3 and 4. That is, in the examples 3 and 4 which used together the glycolic acid or shell membrane extraction protein which is one sort of alpha-hydroxy acid, and the glucocerebroside which is a sphingoglycolipid, 80% or more of improvement is accepted in each item. The examples 4, 5, and 6 of comparison of the effect which carried out independent combination of each component were insufficient although the improvement inclination was accepted. In the example 6 of comparison which blended especially the glucocerebroside only 0.2% of the weight, about the wrinkling and the beam, it set 55%, set to no less than 35% of panelist also about texture, and an improvement of a skin aging symptom was not accepted.

[Table 7]

項 目	評 価	試 料				
		実施例 3	実施例 4	比較例 4	比較例 5	比較例 6
しわ	A	1 7	1 6	5	3	2
	B	3	4	1 1	9	7
	C	0	0	4	8	1 1
きめ	A	2 0	2 0	1 1	1 1	4
	B	0	0	6	5	9
	C	0	0	3	4	7
はり	A	1 8	1 9	7	7	3
	B	2	1	9	8	6
	C	0	0	4	5	1 1

[0022] Also in Table 8, the improvement of a multiplication aging symptom was accepted about the example 5 which uses together a lactic acid and the MONOGA lactosyl diglyceride which is a glyceroglycolipid, and the example 6 which uses together shell membrane extraction protein and the aforementioned glyceroglycolipid, and 80% or more of improvement was shown about each item. On the other hand, too, although the improvement inclination was accepted, the effect of the examples 7 and 8 of comparison which blend a lactic acid and shell membrane extraction protein independently, respectively was insufficient, and that "It had been improved" was estimated remained as 30 - 50% of the panelist. On the other hand, in the example 9 of comparison which blends only a MONOGA lactosyl diglyceride, an improvement of a skin aging symptom was not accepted [texture / beam] in no less than 50% of panelist 30% 75% about a wrinkling.

[Table 8]

項 目	評 価	試 料				
		実施例 5	実施例 6	比較例 7	比較例 8	比較例 9
しわ	A	1 7	1 6	7	6	1
	B	3	4	1 1	1 2	4
	C	0	0	2	2	1 5
きめ	A	1 8	1 7	1 0	1 0	5
	B	2	3	8	9	9
	C	0	0	2	1	6
はり	A	1 6	1 7	8	9	3
	B	4	3	7	7	7
	C	0	0	5	4	1 0

[0023] Improvements of a multiplication skin aging symptom are accepted to be 0.2 % of the weight of glycolic acids, and 0.2 % of the weight of shell membrane extraction protein by the combined use with 0.5 % of the weight of deoxyribonucleic acids, and the improvement is accepted by 70% or more of panelist in the example 7 and the example 8 in Table 9 in each item. On the other hand, sufficient improvement is not accepted in the examples 10, 11, and 12 of comparison of each independent combination. In the example 12 only of comparison which blended 0.5 % of the weight of especially deoxyribonucleic acids, the improvement operation to a wrinkling was low and there was not a panelist estimated "To have been improved."

[Table 9]

項 目	評 価	試 料				
		実施例 7	実施例 8	比較例 10	比較例 11	比較例 12
しわ	A	1 5	1 4	7	6	0
	B	5	6	1 1	1 2	5
	C	0	0	2	2	1 5
きめ	A	1 8	1 9	1 0	1 0	8
	B	2	1	8	9	9
	C	0	0	2	1	3
はり	A	1 7	1 8	8	9	7
	B	3	2	7	7	9
	C	0	0	5	4	4

[0024] In Table 10, the improvement of a remarkable skin aging symptom was accepted in the example 9 which used together the lactic acid and the phospho CHIJIRU choline which is a glycerophospholipid. on the other hand, in the example 13 only of comparison which blends 0.5 % of the weight of lactic acids, although the improvement inclination was accepted, the effect was inadequate, and the improvement effect which is a skin aging symptom in the example 14 only of comparison which blends 1.0 % of the weight of phospho CHIJIRU cholines was low, and it remained in 15% having been estimated "to improve a little" about the wrinkling About texture, 25% did not accept an improvement and an improvement was not accepted in no less than 60% of panelist about a beam.

[Table 10]

項 目	評 価	試 料		
		実施例 9	比較例 13	比較例 14
しわ	A	1 8	8	0
	B	2	1 1	3
	C	0	1	1 7
きめ	A	2 0	1 2	5
	B	0	7	1 5
	C	0	1	5
はり	A	2 0	1 3	2
	B	0	7	6
	C	0	0	1 2

[0025] Next, about the recovery effect and anti-inflammatory activity of a skin wound, ten mice which made a wound or inflammation produced back artificially were made into one group, it applied 0.5g day at a time each sample of an example and the example of comparison to the wound part or inflammation part of each group mouse for 2 times per and seven days, respectively, and the state of a wound part and an inflammation part was observed and evaluated. The recovery situation of a wound is a three-stage with recovery "full recovery", "recovering a little", and "imperfect", and was evaluated by the three-stage of "effective", effective ["a little effective"], and a an "invalid" about anti-inflammatory activity. The result was shown in Table 11 and 12 by the number of the mice with which each evaluation was obtained.

[Table 11]

試 料	皮膚損傷の治療状況			抗炎症作用		
	完全	やや治癒	不完全	有効	やや有効	無効
実施例 1	7	3	0	9	1	0
実施例 2	6	4	0	9	1	0
比較例 1	3	5	2	3	6	1
比較例 2	2	5	3	4	5	1
比較例 3	1	3	6	5	4	1
実施例 3	7	3	0	1 0	0	0
実施例 4	8	2	0	1 0	0	0
比較例 4	3	6	1	5	5	0
比較例 5	3	5	2	6	4	0
比較例 6	2	3	5	3	7	0

[Table 12]

試料	皮膚損傷の治癒状況			抗炎症作用		
	完全	やや治癒	不完全	有効	やや有効	無効
実施例 5	7	3	0	10	0	0
実施例 6	8	2	0	10	0	0
比較例 7	4	6	0	2	7	1
比較例 8	4	5	1	3	6	1
比較例 9	0	4	6	1	6	3
実施例 7	6	4	0	8	2	0
実施例 8	7	3	0	7	3	0
比較例 10	1	5	4	2	4	4
比較例 11	1	3	6	1	3	6
比較例 12	2	4	4	3	5	2
実施例 9	7	3	0	8	2	0
比較例 13	2	6	2	4	5	1
比較例 14	0	3	7	1	3	6

[0026] In Table 11, recovery and the remarkable anti-inflammatory activity of a good wound are accepted about the examples 3 and 4 which use together the examples 1 and 2 which use together a lactic acid or shell membrane extraction protein, and a sphingomyelin and a glycolic acid or shell membrane extraction protein, and a glucocerebroside. There is no imperfect mouse of wound healing and anti-inflammatory activity was also estimated are effective with almost all mice by the group which applied these. On the other hand, by each example application group of comparison, also as for the mouse with which it remained by 30% and effective anti-inflammatory activity was accepted, it was good to have accepted full recovery of a wound, and it was 60%.

[0027] Also in Table 12, the outstanding wound healing effect and outstanding anti-inflammatory activity were accepted in the examples 7 and 8 which used together the examples 5 and 6 which used together a lactic acid or shell membrane extraction protein, and the MONOGA lactosyl diglyceride, the glycolic acid, or shell membrane extraction protein and a deoxyribonucleic acid, and the example 9 which used together the lactic acid and the phosphocholine. On the other hand, by the example application group of comparison, though recovery of a wound was accepted, full recovery was only 40%, and by the example 9 of comparison, and the example of comparison 14 application group, the mouse which accepted full recovery was 0. The mouse estimated as each group effective is good, and is 40%, and anti-inflammatory activity was also estimated are invalid by the example 11 of comparison, and the example of comparison 14 application group in 60% of mouse.

[0028]

[Effect of the Invention] Compared with the case where it uses by each independent one, improvement in the multiplication improvement effect of the aging symptom of the skin and a surface-deterioration symptom and the multiplication wound-healing effect, and anti-inflammatory activity was accepted by respectively very little combination by using together one or more sorts of alpha-hydroxy acids, these salts and a derivative and/or shell-membrane extraction protein, a sphingophospholipid and a sphingoglycolipid, a glyceroglycolipid, and a nucleic acid in this invention as mentioned above. Moreover, said synergistic effect was accepted also by using together alpha-hydroxy acids, these salts and a derivative, and a glycerophospholipid. Therefore, the skin medicine for external application without a skin stimulus or skin sensitization nature which it was very safe, was effective in aging prevention and the skin symptom improvement, and was excellent in the recovery effect and anti-inflammatory activity of a wound was able to be offered by this invention.

[Translation done.]